

Enhancements to the Bootstrap Ice Algorithm

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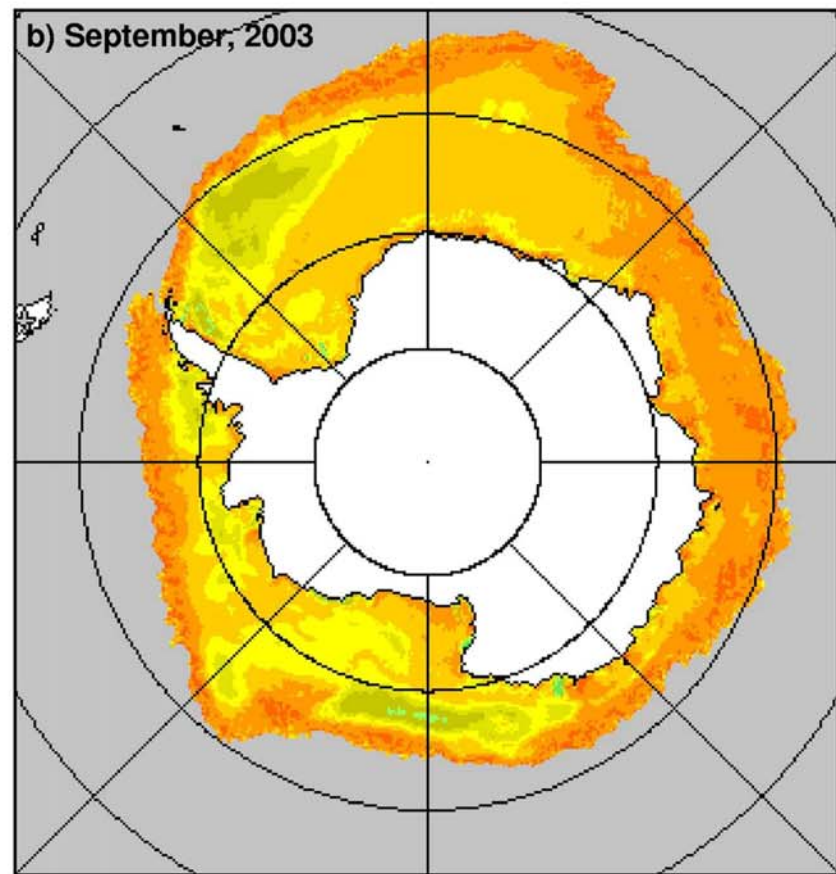
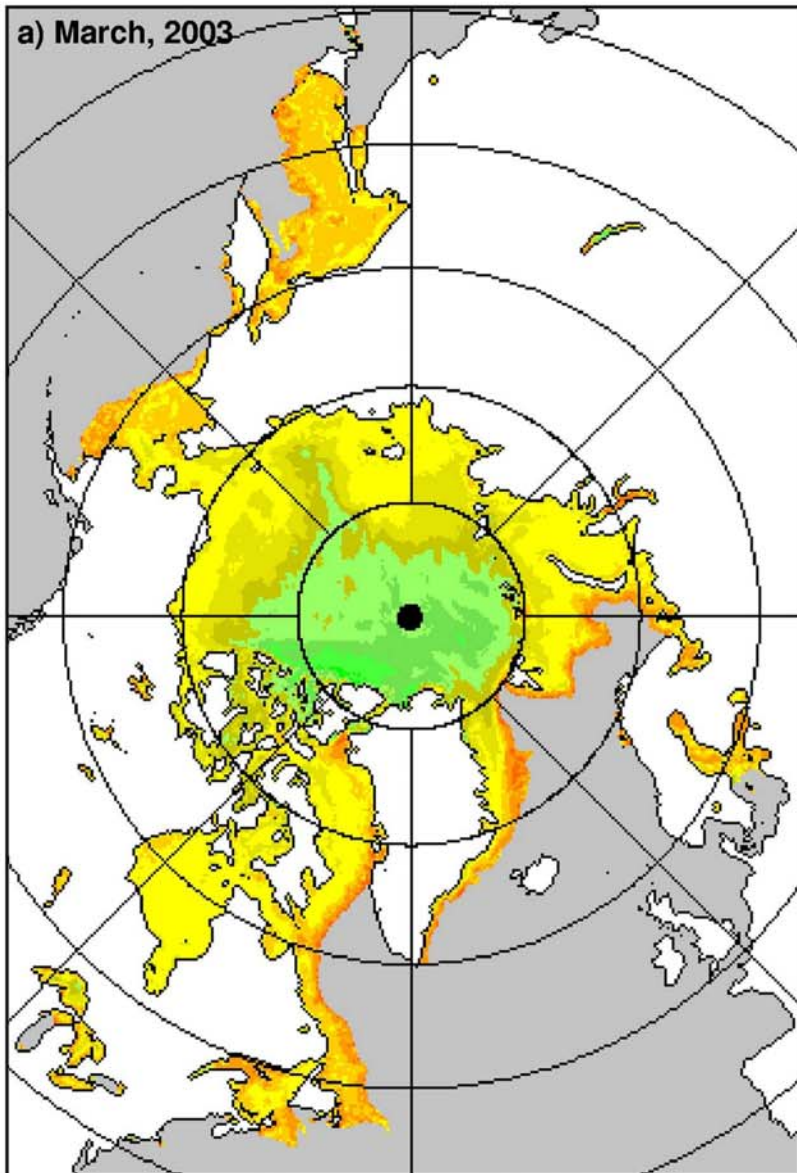
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AMSR Meeting, Colorado State
University, Fort Collins, CO
3-4 August 2004

Recent changes and future plans

- Enhancements to the IC Algorithm
 - SH algorithm now similar to NH algorithm
 - Biases with new/wet ice minimized
- Enhancements to Ice Temp Algorithm
 - Make emissivity adjustments to low ICs
 - Improves retrieval at MIZ and in summer
- Validation studies and validation plans

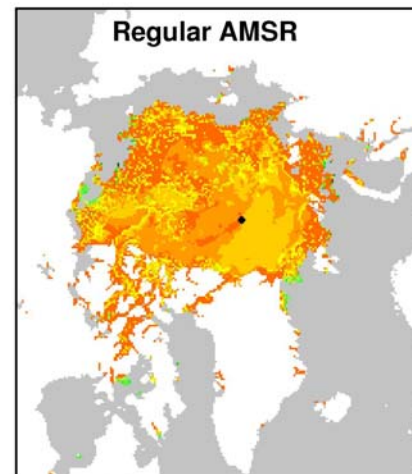
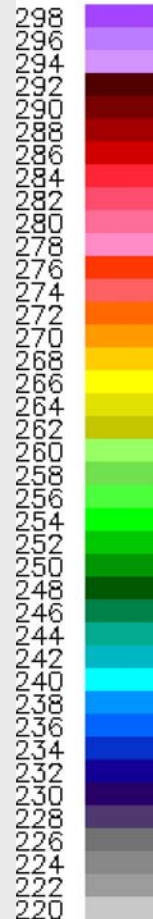
Winter Ice Temperatures NH&SH



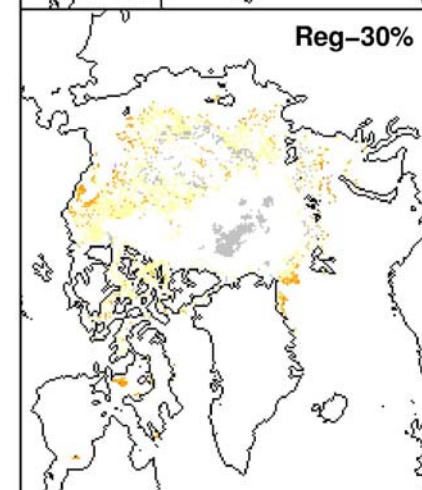
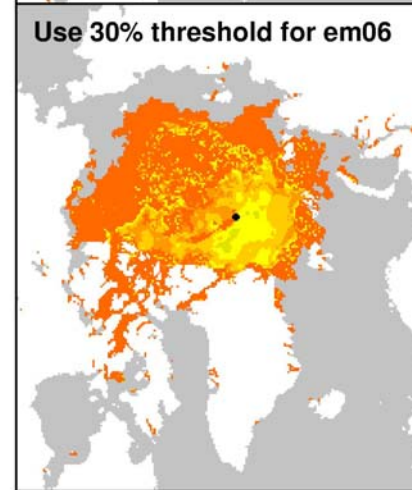
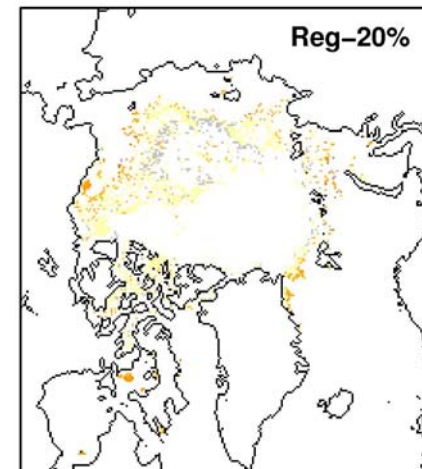
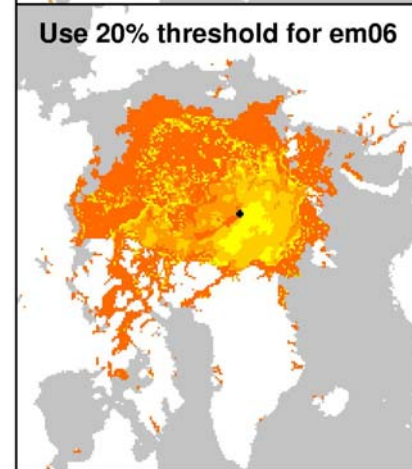
K

Summer Ice Temperatures

Adjustments are apparently needed due to sensitivity of surface emissivity to wetness/IC effects



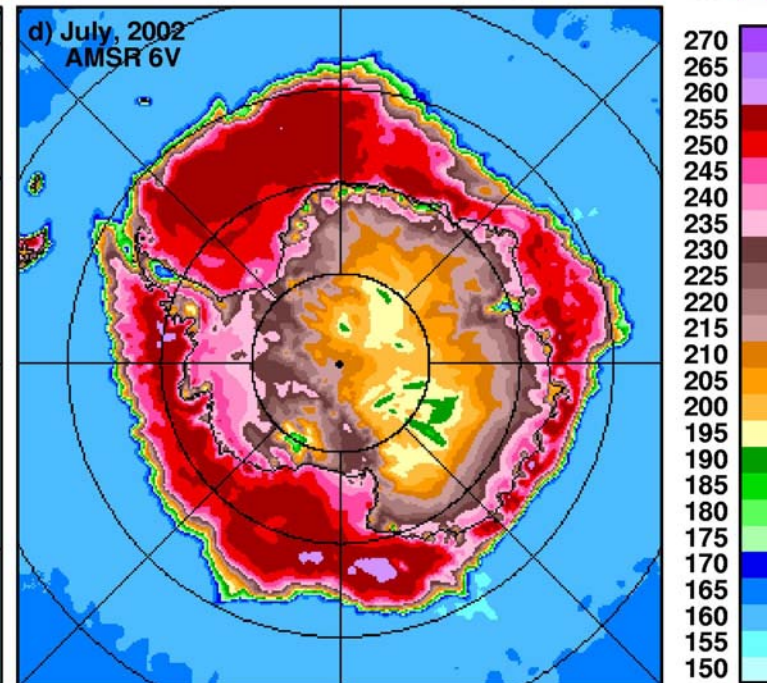
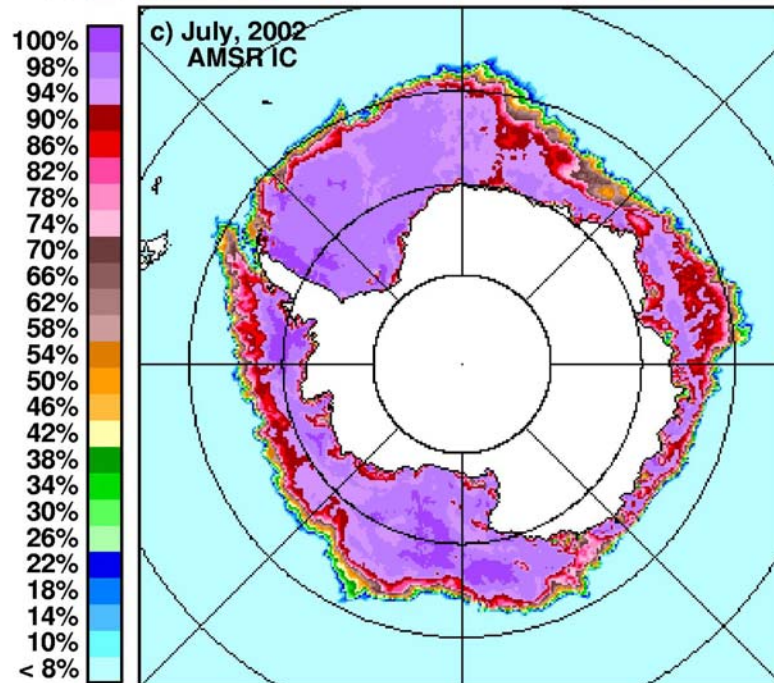
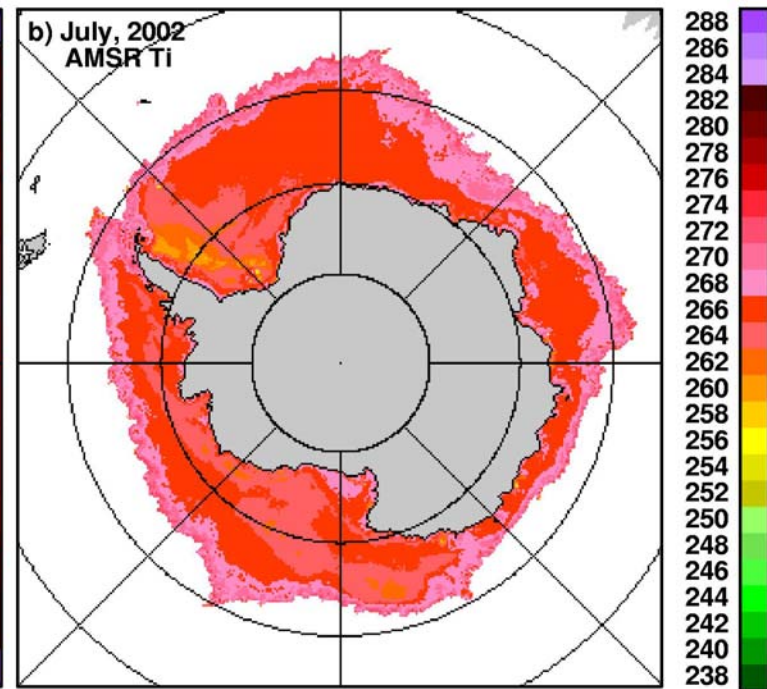
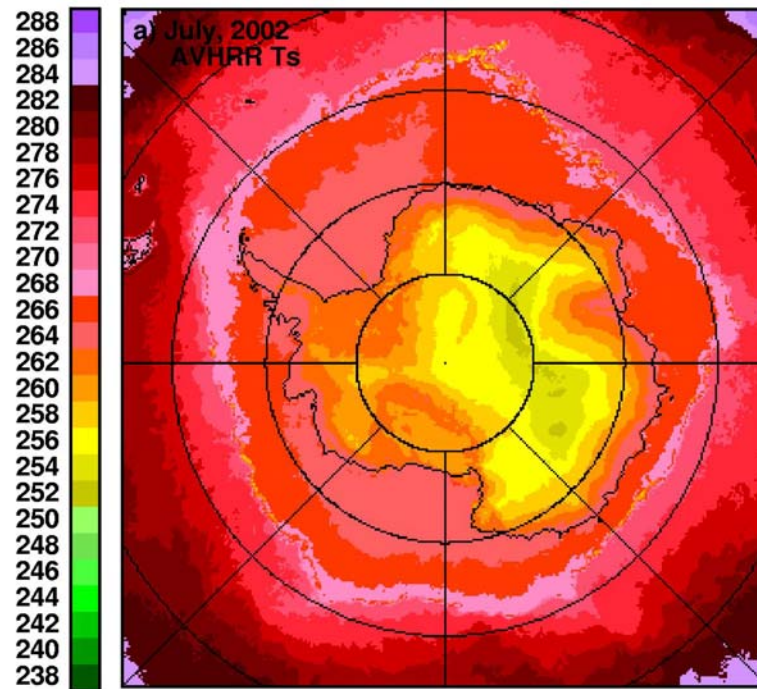
August 15, 2002



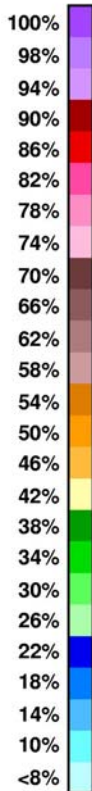
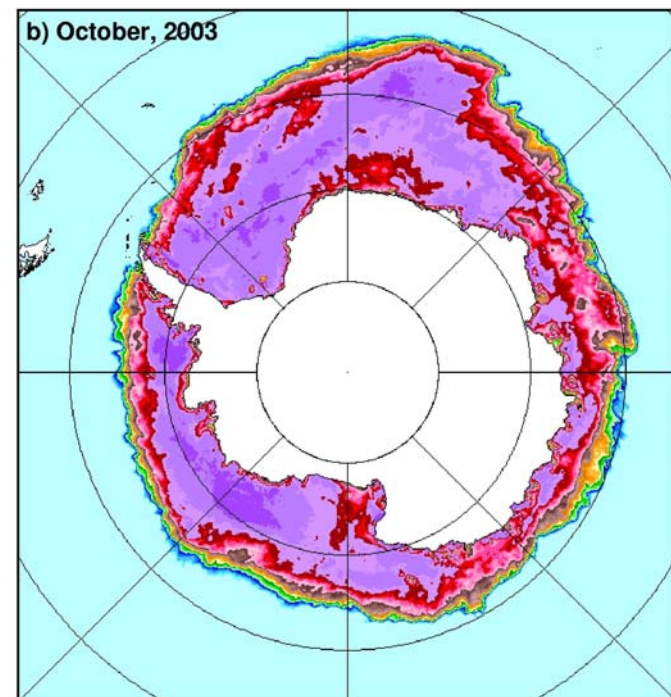
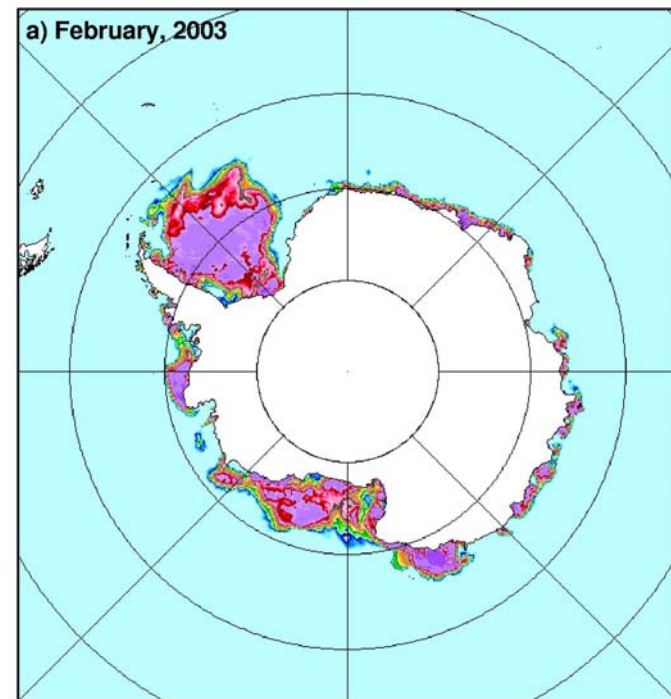
AVHRR
ice temp

vs

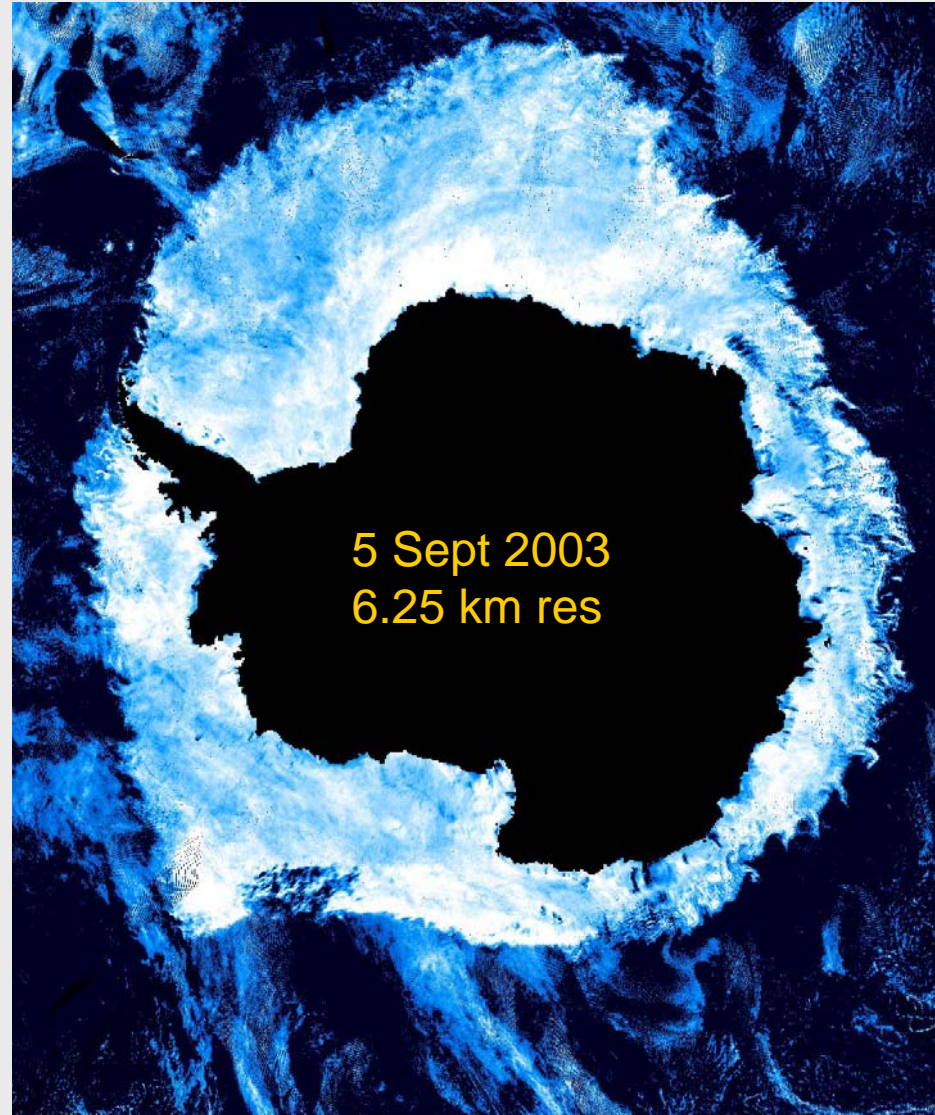
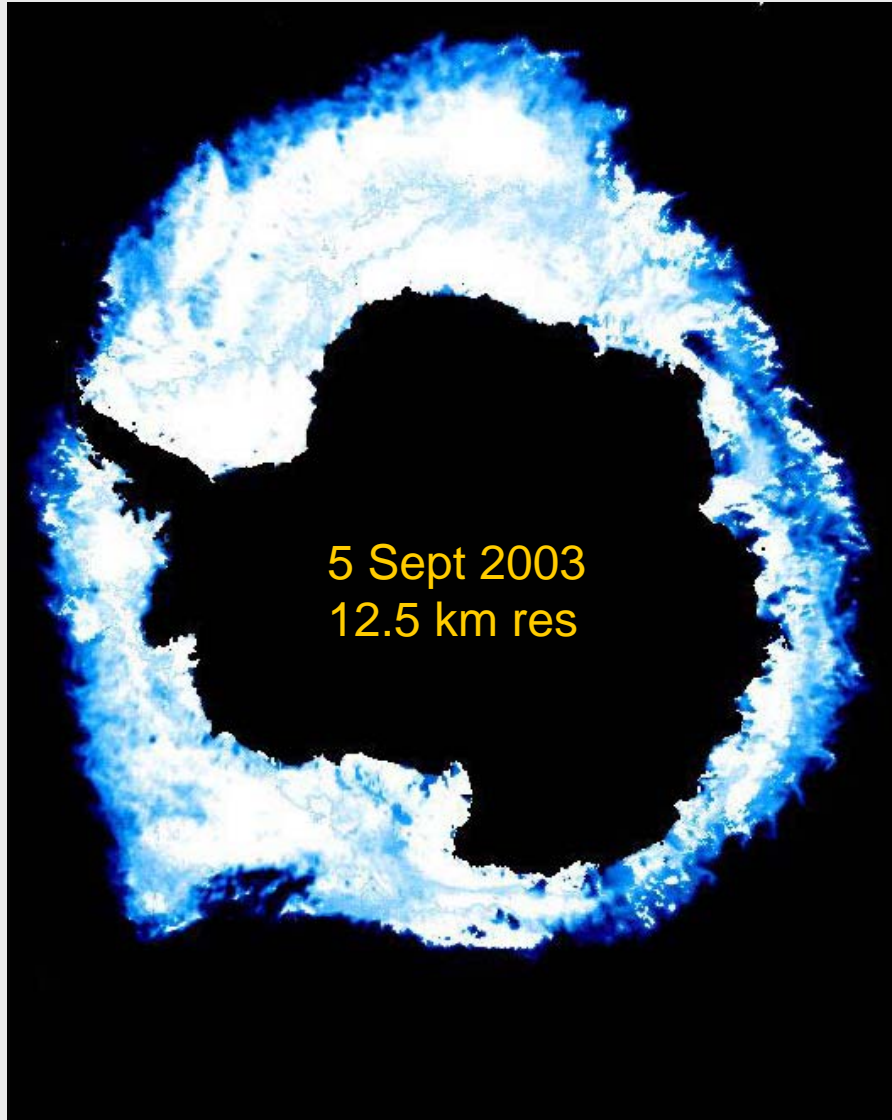
AMSR
ice temp
IC, and
TB (6V)



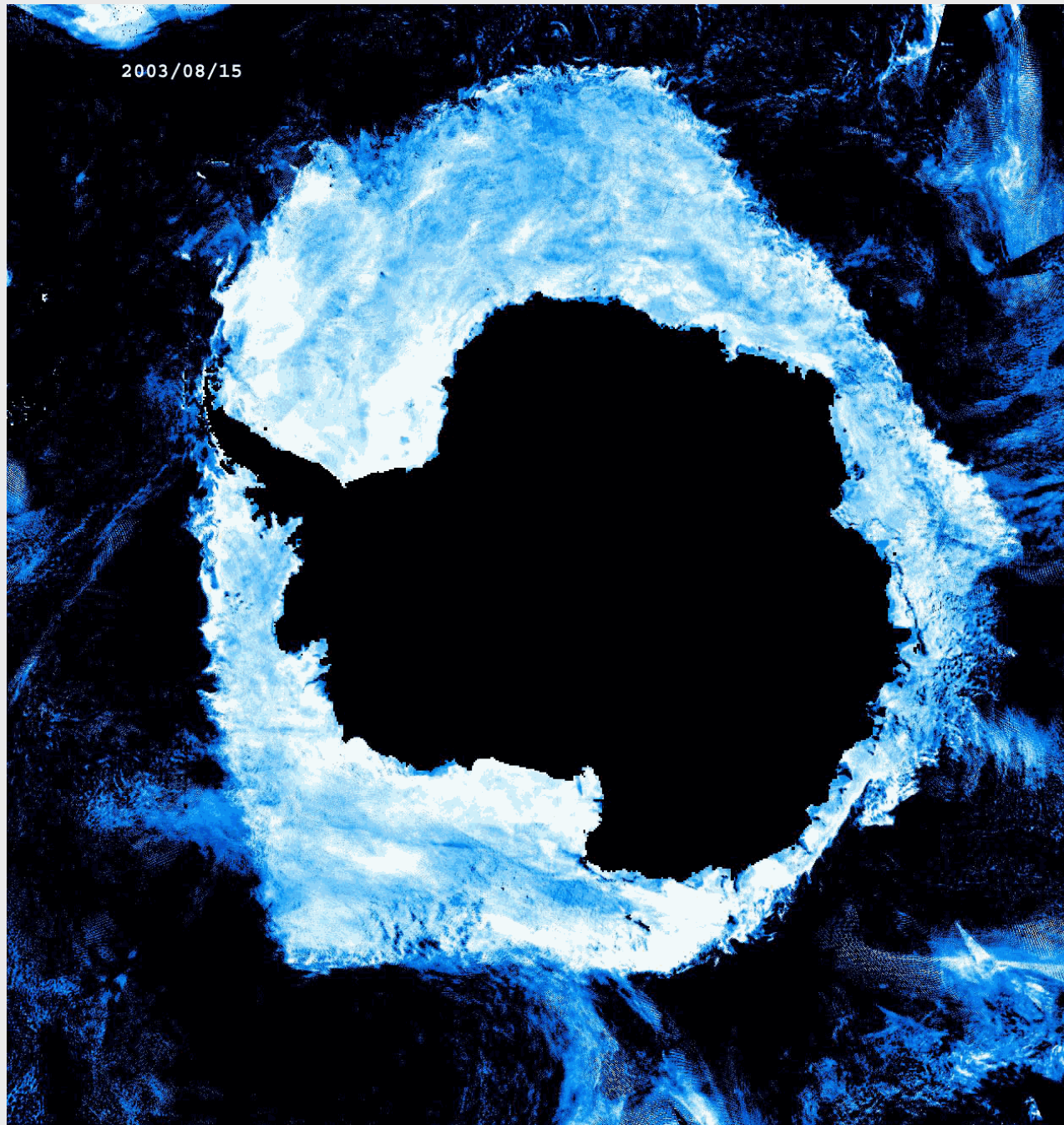
AMSR ice concentration maps in the Southern Hemisphere for Summer and Winter



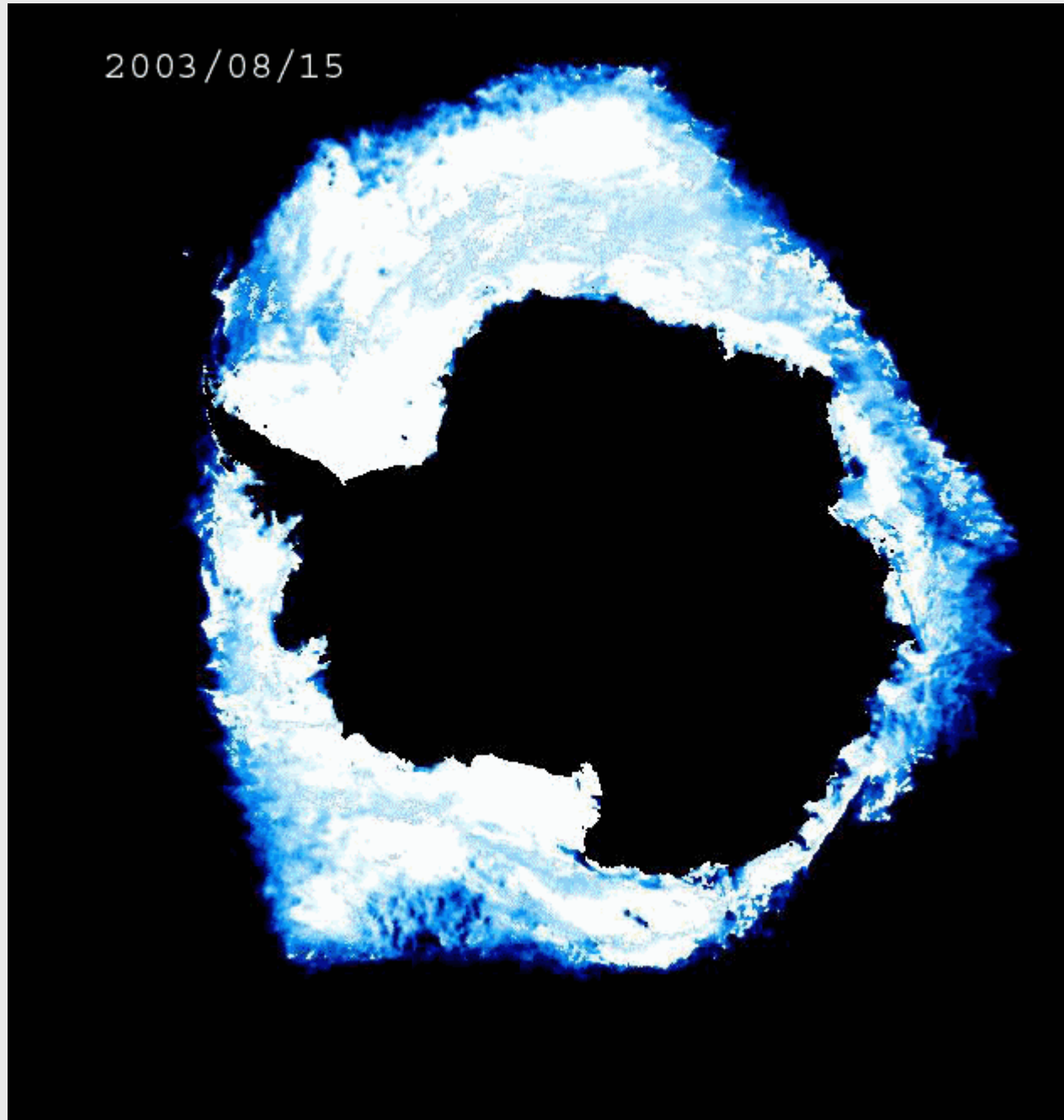
AMSR IC, 12.5 vs 6.25 km products



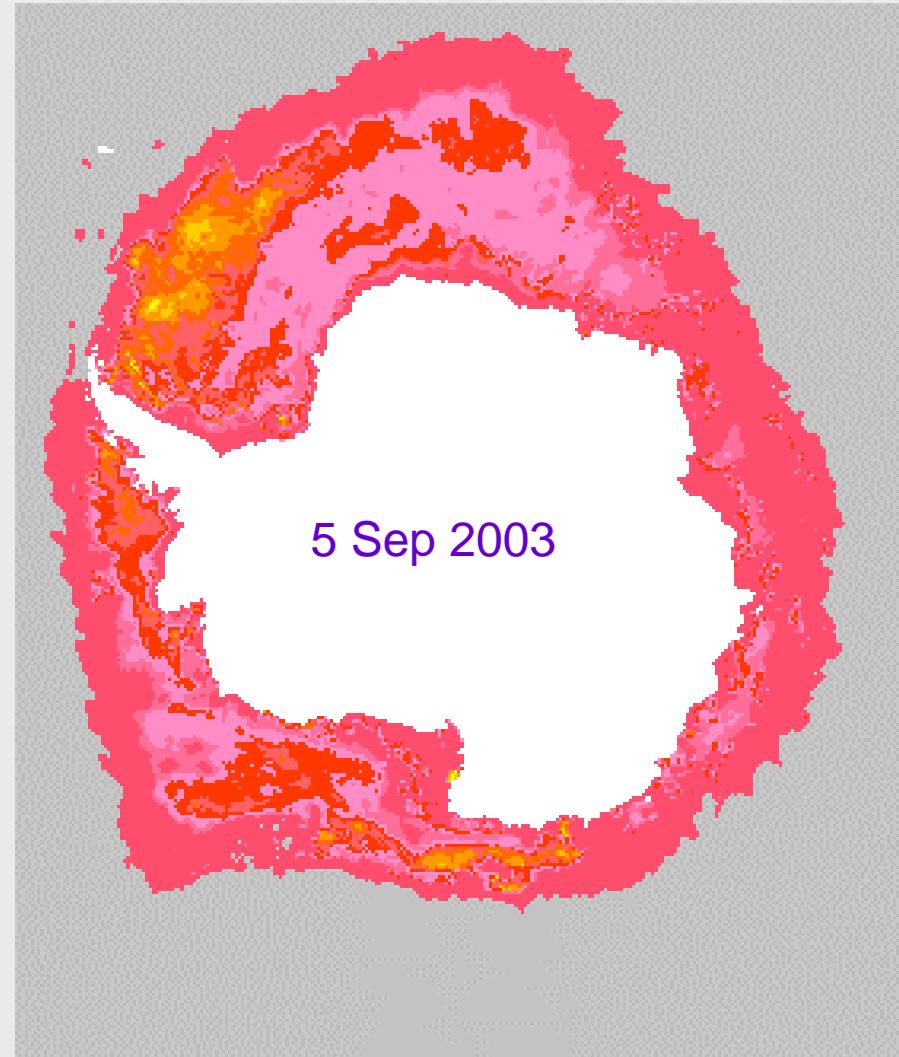
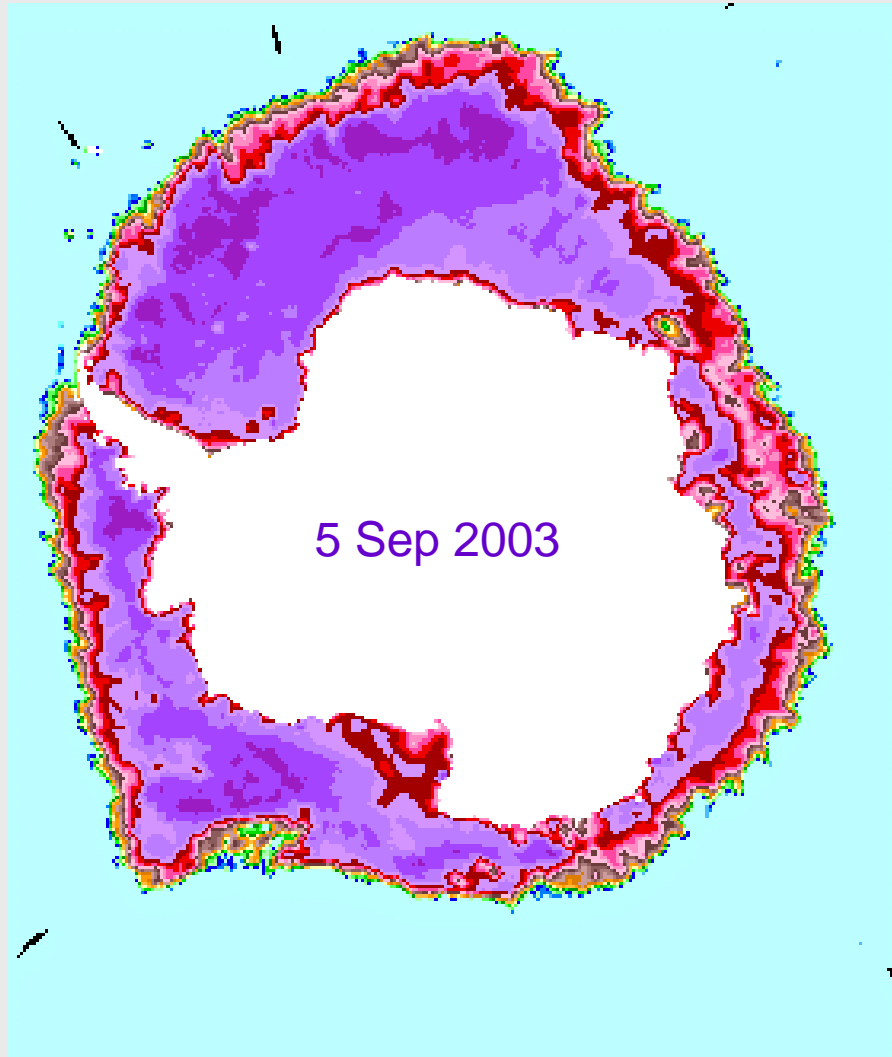
15 August – 15 September 2003 AMSR 89 GHz data



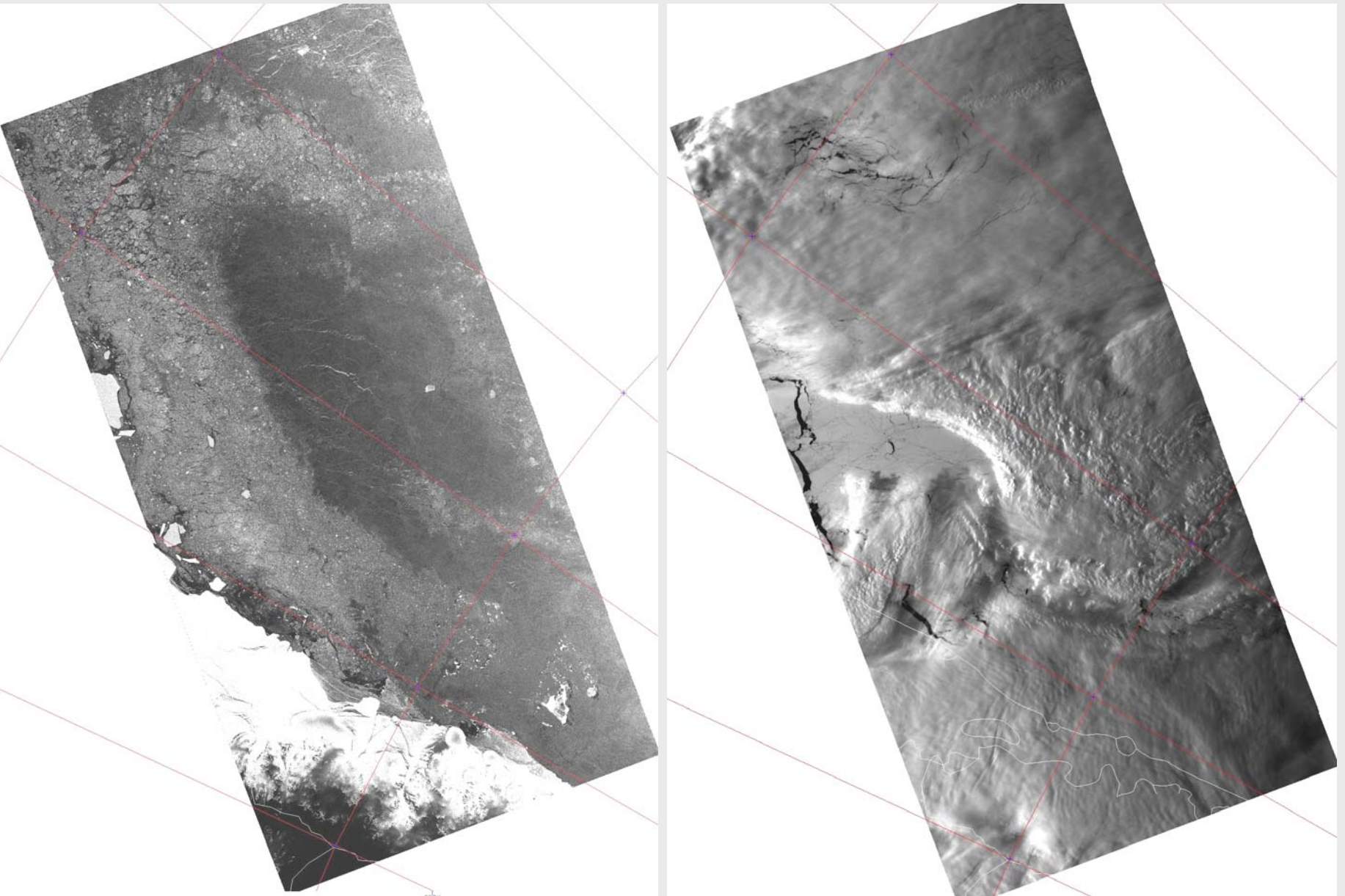
15 August – 15 September 2003 AMSR 12.5 km IC



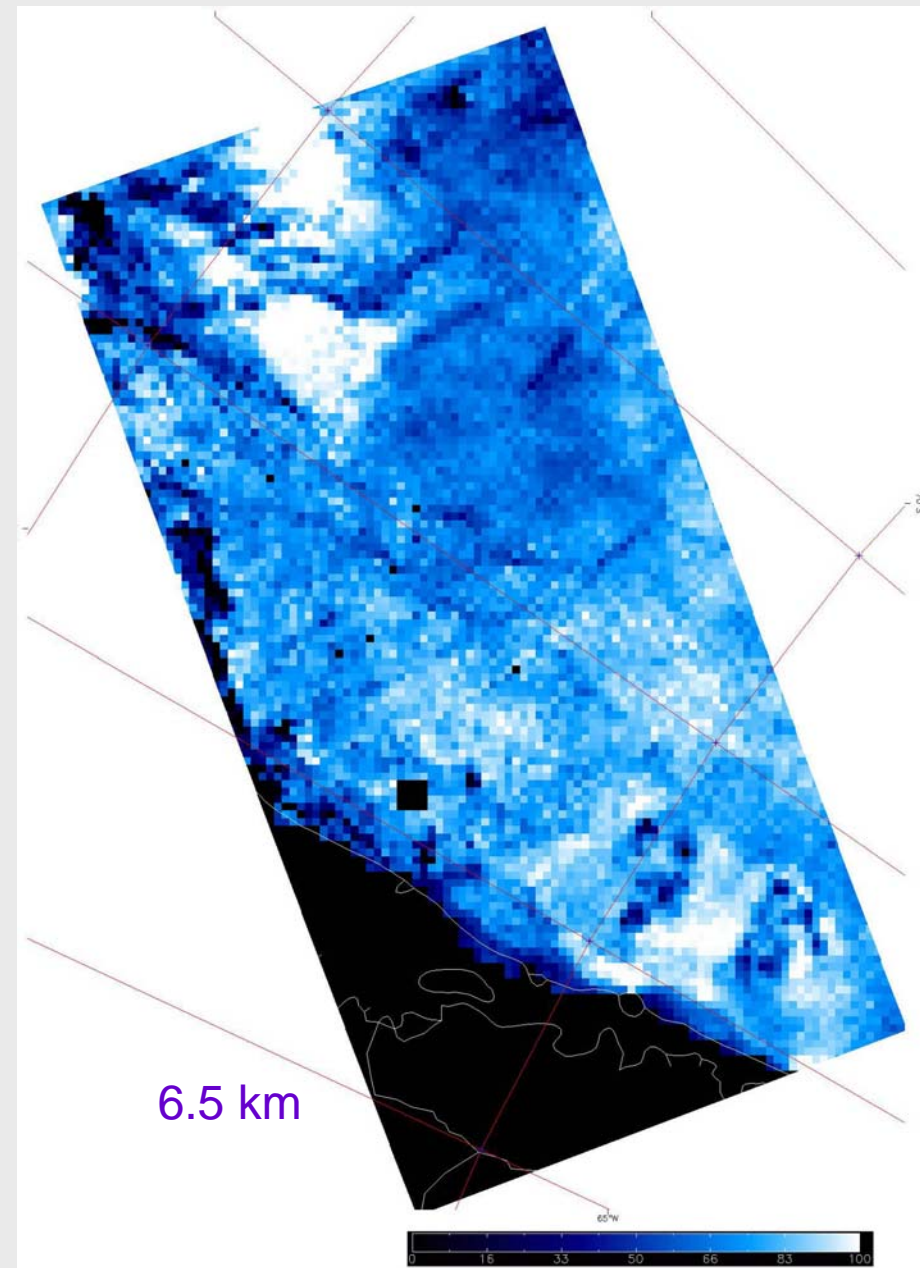
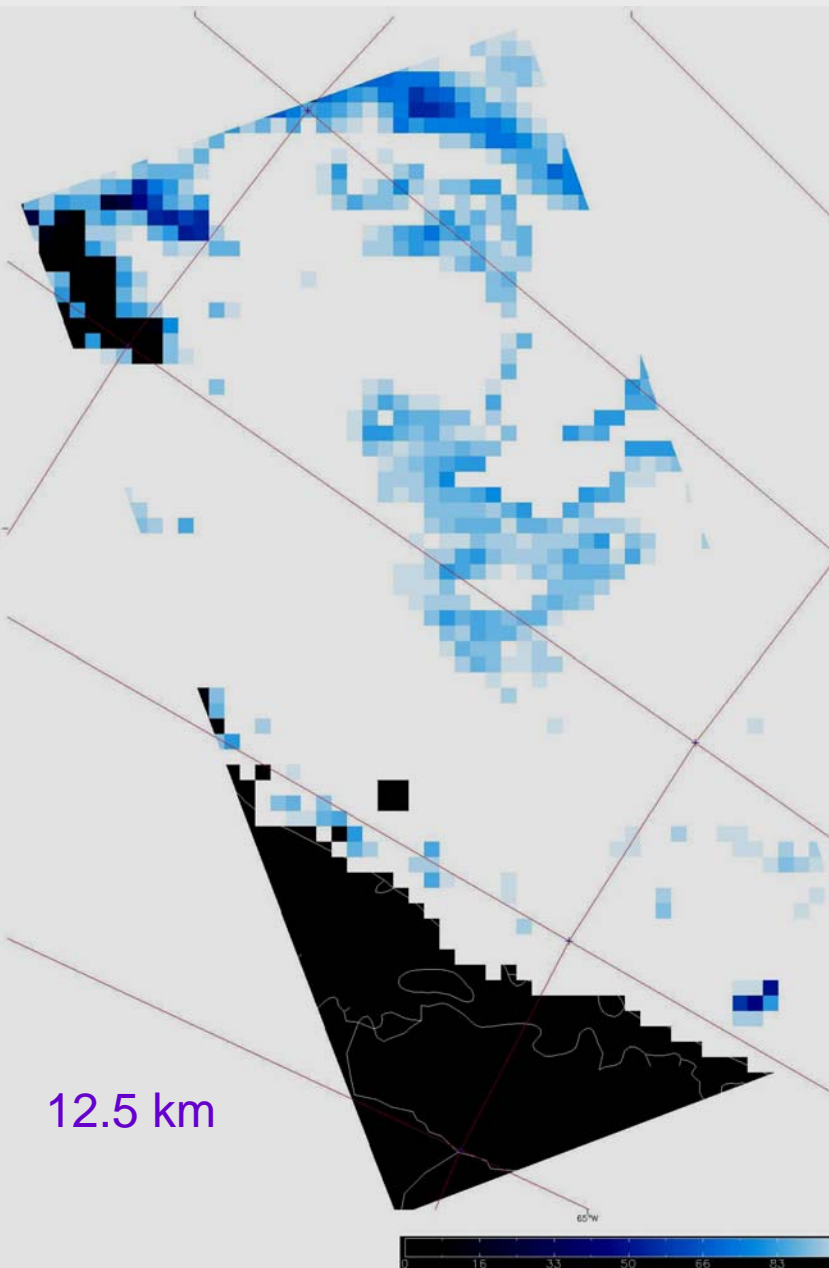
V637 Ice Conc and Ice Temp



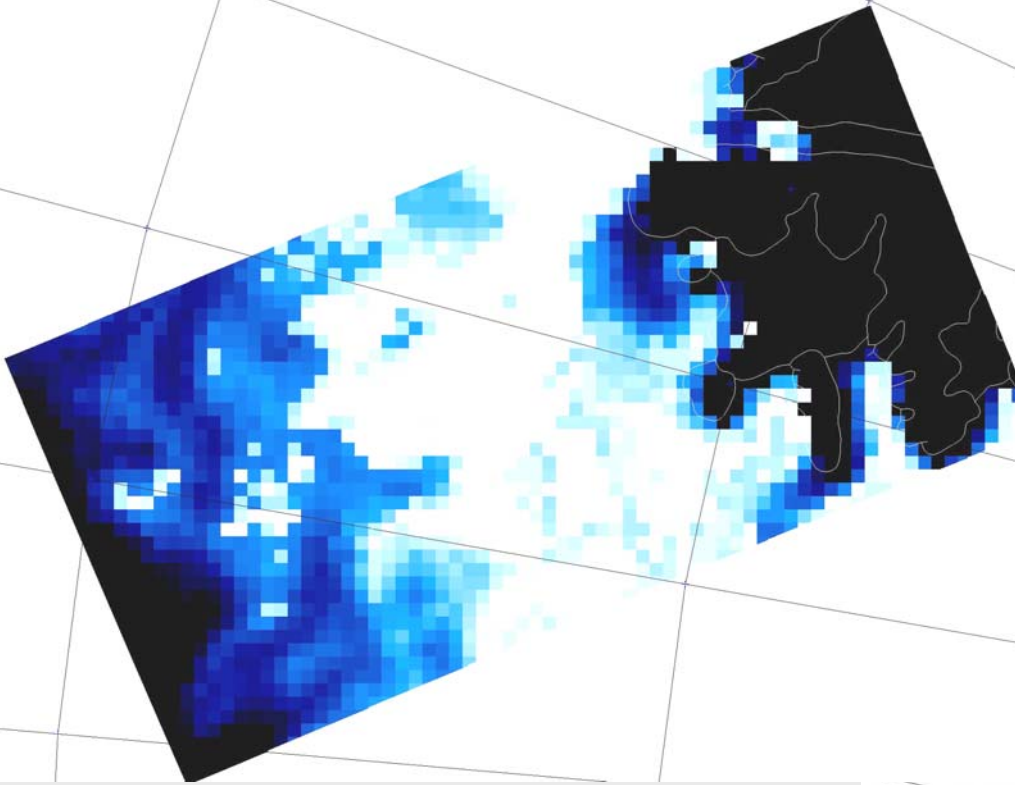
ASAR and MODIS data on 30 Aug 2003



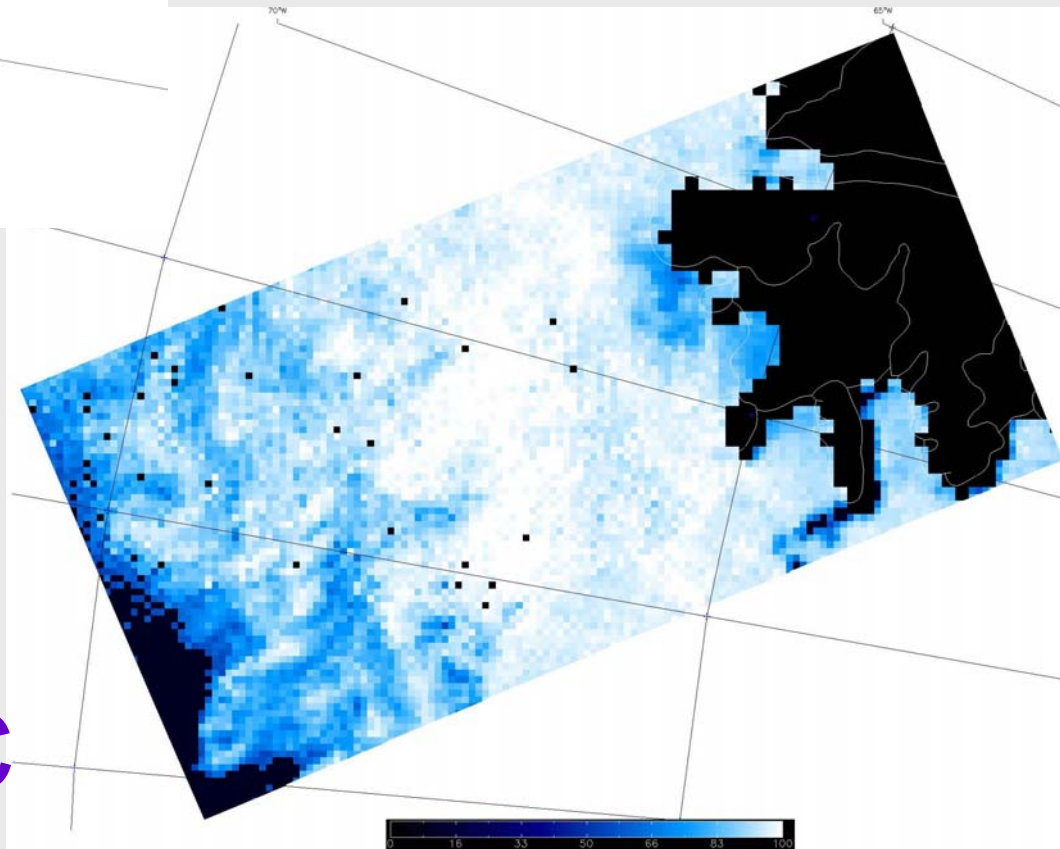
AMSR data on 30 August 2003



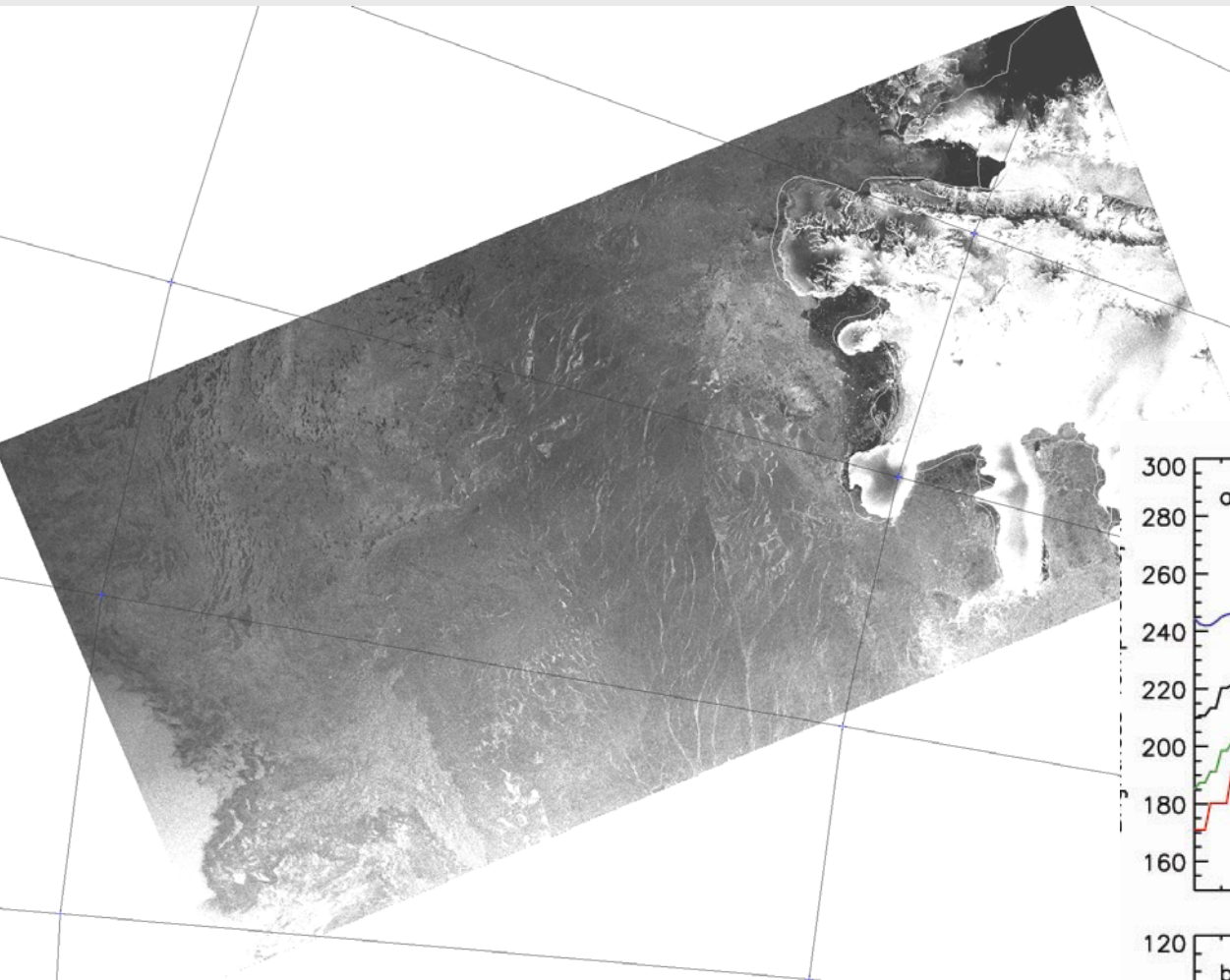
AMSR 12.5
km IC
26 August 03



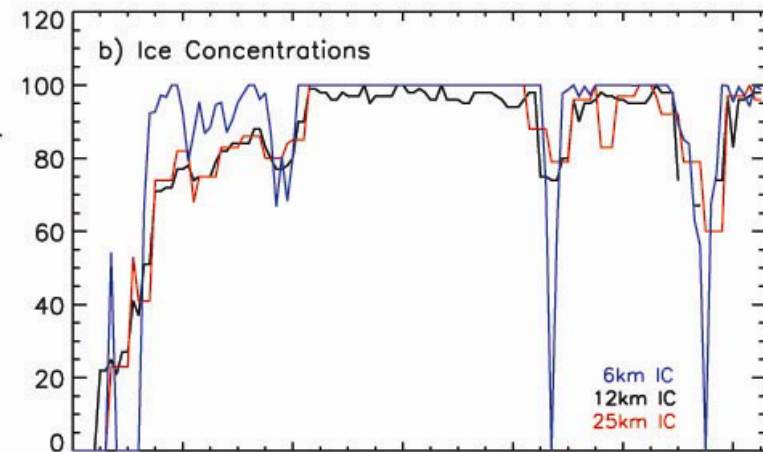
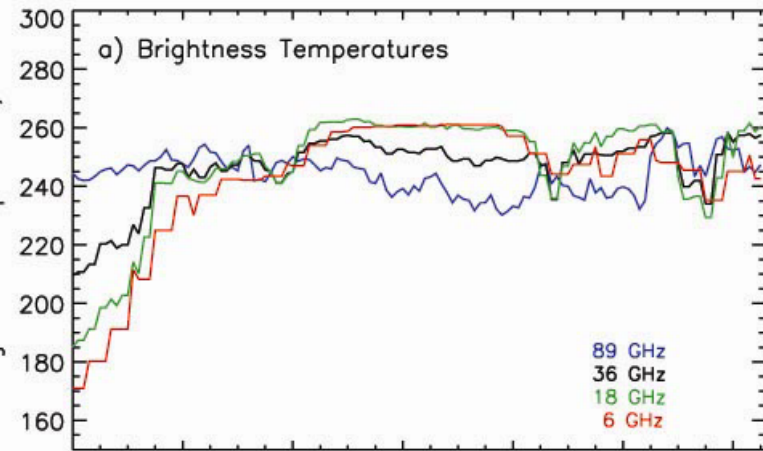
AMSR 6.25 km IC



SAR at the MIZ 26 Aug 03



AMSR TBs and IC data on
26 Aug 2003 at the MIZ
And the ice pack.



Summary

- Recent enhancements yield improvements in the accuracy of the retrieval of IC and ice temperature
- The 89 GHz channels provide high resolution and potentially very useful data but the impact of atmospheric effects needs to be studied more in detail
- Validation program in the Antarctic is important. Hope it will happen this year.